

COLUMBIA

WINS!

According to This Ingenious Puzzle, and the Object to Find How Much She Beat the Shamrock.

WITHOUT going into the minutiae of figures and measurements, it may be stated on general principles that the rules and regulations which govern yachting matters were designed to encourage scientific boat building and sailing.

Speed being the essential feature in racing, the object is clearly to go a certain distance by such methods of sailing as will get there first, but in the matter of building the problem is to design a model which will produce the best results in proportion to the relative size of the hull and the spread of canvas. Unlimited latitude regarding the measurements of his boat, the weight and depth of keel, and the size of the sails, is given to the designer, but he has to bear in mind that the speed of his boat must be in proportion to its size.

The boat which passes the buoy first does not always win, and it not infrequently happens that the one that comes in last was the first by a handsome majority.

Some builders have done a vast amount of kicking against what they term the absurd injustice of the handicapping system, but so far none of them has taken advantage of the alleged weakness by constructing a boat which would necessitate a revision of the rules. Omitting the details of the handicapping laws which govern the forthcoming international races, it may be assumed that every one is sufficiently familiar with the way of measuring the length and beam of the boat at its water line, which gives its size, or what might be technically termed the displacement, which, with the size of the sails, forms the basis

of calculations which determine whether any particular yacht is to give or receive a certain time allowance of so many seconds per mile in the race with the other boats.

As a matter of course, it is impossible to devise handicapping rules which would meet every possible emergency, hence the element of chance enters into the race in proportion as the feature of strong or very light winds might favor the peculiar construction of some certain boat, but this to a certain extent has been obviated by requiring that the race must be sailed over again if the wind is not sufficiently strong to enable the winner to make the distance within a prescribed time.

HOW THE CANNON BALLS WERE PILED.

IN describing the practice of piling cannon balls into square or triangular pyramids, the problem was given to convert a square pyramid of balls which has twelve on each side at the base, tapering up to the one at the top, to two triangular pyramids of different sizes.

It is a pretty problem involving a principle which I have never seen mentioned in the books, and which seems to be based upon the following elementary rule. The smallest square pyramid would be four balls capped with one—5. The smallest triangular pyramid would be three capped with 1—4; and a single one which we will accept as the next smallest pyramid.

Therefore we get the rule that a square pyramid contains as many balls as two triangular ones, one of the same base and one of the next size below. Therefore the answer to the problem of the 12x12 base which contains 650, can be converted into a 12x12 triangle, 364, and the next lower 11x11=386, both together containing the 650 balls of the large square one.

JOSEPHINE AMELIA BAKER, aged fourteen, of No. 431 Frankford avenue, Philadelphia, wins the \$5 for her skilful coloring of Alice in Wonderland No. 5.

IF THE COLUMBIA BEATS THE DEFENDER IN THE SAME PROPORTION AS THE DEFENDER BEATS THE SHAMROCK, HOW MUCH WILL THE COLUMBIA BEAT THE SHAMROCK ON A THIRTY MILE COURSE?



The races are planned so as to test the comparative merits of the yachts while sailing against the different directions of the wind, so as to show off their strong points to the greatest possible advantage, but according to an old salt, who is an authority on international yacht races, the only thing that the Yankees have to fear in the forthcoming struggle is the feature of uncertainty resulting from an unfavorable wind, and the feature of handicapping, which under certain circumstances he claims might work just the other way from that intended.

To illustrate one of the many problems connected with the feature of handicapping, let us look at one which does not require a knowledge of nautical matters, but which involves one little point upon which most people would go astray:

Suppose at the end of a race, after deducting a handicap which was equivalent to ten yards to the mile, it was found that the Columbia had beaten the Defender twenty yards to the mile, how much should the Columbia beat the Shamrock, if a certain old salt is correct in his estimate that it is to be hoped that the Defender could allow the Shamrock ten yards in every mile and beat her just as bad as the Columbia did the Defender, viz., twenty yards above the allowance in every mile.

It will be seen that the problem is as simple as possible by saying SAM LOYD, New York

NOAH WROTE THE BOTTLEGRAM.

IN the descriptive prologue which accompanied the story of the bottle which was cast up on the sands of Coney Island was given a straight tip that some of these wonderful messages from the sea may have been drifting about in midocean for ages. It was even told that the following lines, which depict the situation of the distressed mariner, were the work of a modern translator:

"A mighty ship I now command,
with cargo rare from every land;
No goods have I to trade or sell,
Each wind will serve my turn as well;
To neither port nor harbor bound,
My greatest wish—to run aground."

Many of our clever puzzlers gave it up, and the wisecracks and anti-quarians, as well as shippers and underwriters, could find no records of any mariner who wished to run his boat aground, but a bright little girl of seven years, named HATTIE MEYERS, who got a new ark last New Year's, says Noah must have written that message.

IN ANSWER TO THE JACK TAR QUERY.

YOU see the soldiers had been puzzling poor Jack with their problems about cannon balls and hollow squares, when Jack retaliated by proposing the following, which must be pretty good for the reason that only two out of all the answers received were correct.

"The man on the lookout spied a big whale blowing about four miles off, and the captain detailed me to tell off a crew and go for her. We only had eleven men left, and of those three could steer, but could not row, while the rest could row but could not steer, and two of them could only row on bow side. I wanted to pick out a crew of eight men out of the eleven, so tell me how many different or possible arrangements I had to pick from."

The difficulties of the situation are dispelled by the following reasoning: There are 3 choices of a steersman, 15 ways of choosing 2 men out of 6 to complete the arrangement on the bow side. Also 24 ways of placing the 4 men on each side. So we get every possible combination by $3 \times 15 \times 24 = 1080$, which gives 25920 as the correct answer.

The problem is a simple one, devoid of mathematical difficulty, when one has only hit up a method of solving it. MR. SAWYER, of No. 118 Ann street, Toronto, Canada, gave the correct answers to the cannon ball problem and to the Jack Tar's puzzling proposition.

The Warning in the Jug.

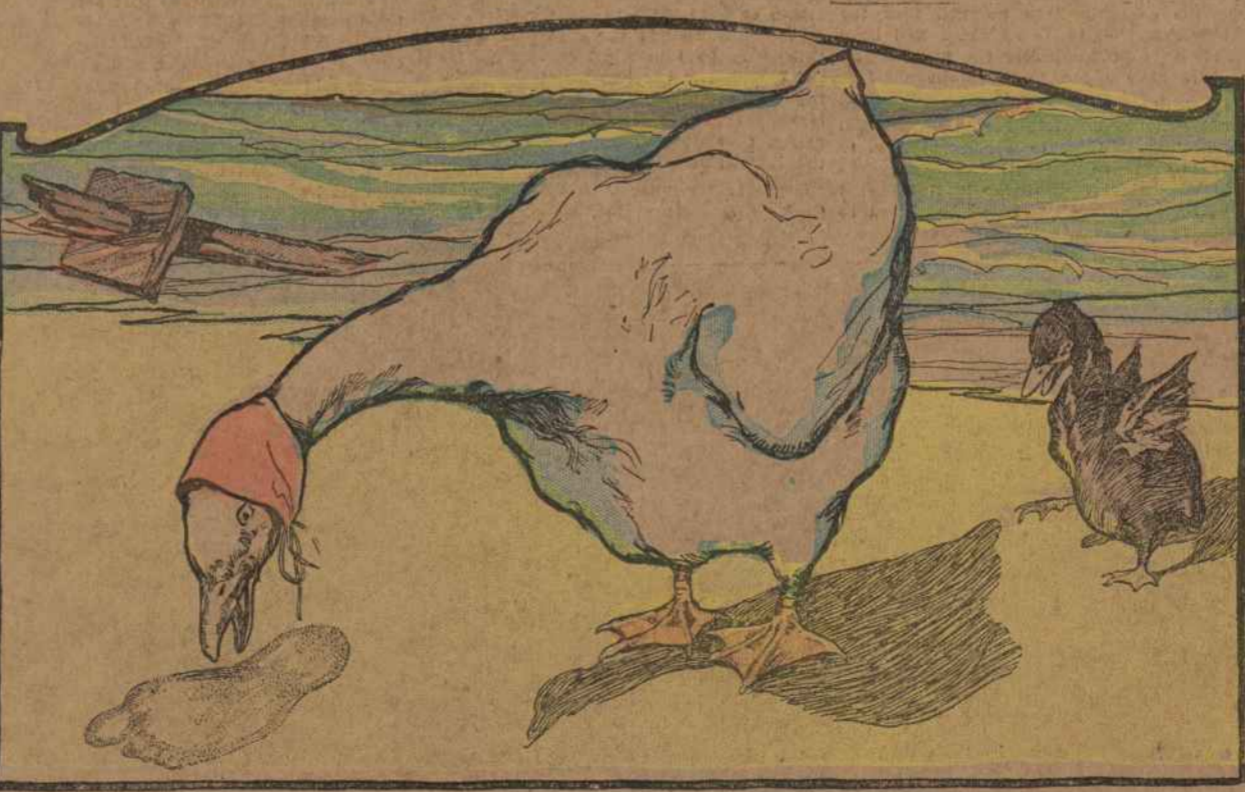
IN former days, when word puzzles were in vogue, much study and brain work was given to the construction of words or sentences which would read the same backward as well as forward. They were known as "palindromes" puzzles, which is a word derived from the Greek *palin*, backwards, and *dromos*, to run. There are many words, like level, eve, gig, etc., which read the same either way, but the aim was rather to construct palindromic sentences, like Adam's noted greeting to Eve, "Madam, I'm Adam," or the sentence, "Name no one man." The idea is of very ancient origin, and there are some classical specimens in Latin and French which are often quoted. There is a famous one ascribed to Napoleon which might be stated as follows: Once, upon being asked whether he could have dictated terms to the whole of Europe, he replied: "J'etais en etat de le faire avant on m'emporte a l'ile d'Elbe."

The puzzle is to translate into an English sentence which will read same either way: "Able was I ere I saw Elba."

Here is an odd palindromic combination which I perpetrated in my early days for the benefit of a temperance organization, and which will try the patience and skill of our young puzzle-ists. The problem is to begin from the outer R's and tell just how many different ways one can read the warning words: RED RUM & MURDER, without being affected by delirium tremens. Commence from any of the outside letter, spell right into the centre and out again on any of the branches and see how many ways you can spell it without making any two sequence of letters alike.

NO. 1---STORY BOOK CHARADES FOR LITTLE ONES.

IN THE PICTURE THERE ARE INDICATED THE TITLES OF THREE BOOKS WELL KNOWN TO EVERY CHILD IN THE UNITED STATES. THE LITTLE BOY OR GIRL WHO FIRST SENDS IN THE CORRECT SOLUTION TO THIS CHARADE WILL RECEIVE A PRIZE OF \$5 IN CASH. THIS DEPARTMENT IS EXCLUSIVELY FOR COMPETITION AMONG THE LITTLE ONES.



A PRETTY PITCH-PENNY PROBLEM.

A RETURNED army officer from our newly acquired possessions in the South says that under Uncle Sam's new regime the benign influences of civilization are becoming apparent in Porto Rico. He describes the natives as being wonderfully assimilative, as evinced by the fact that all the newsboys of San Juan were playing Yankee craps before our flag had been flying there a month. They play what our young Americans used to call the straight game, without dice, just pitching the pennies until one of the players gets heads five times.

Now, if you feel inclined to go into a pretty piece of calculation, just figure out what are the chances that there will be exactly five heads and five tails thrown in five tosses of two coins.

It looks like a very simple matter, and yet a noted writer on the theory of chance and probabilities tossed two coins continuously for two weeks just to see how close the actual result of a pitch-penny contest would agree with the calculations which govern such cases.

It is a pretty puzzle, as a matter of fact, devoid of mathematical difficulties, as it yields readily to puzzle methods

The College Crew Race.

IT was stated in the college crew puzzle that a trained crew could row upstream in eighty-four minutes, and could row the same course down stream in nine minutes less than they could perform the feat in still water.

The average solver fell into the popular error of saying that if they can row down stream in nine minutes faster with the stream, that nine from the upstream time of eighty-four would give seventy-five as the performance in still water; therefore, in coming down with the stream the current would take off nine minutes from the seventy-five minutes time, and allow the rowers to perform the feat in sixty-three minutes.

This is the error which many practical rowers are confronted with when they cannot make the actual time agree with their mathematics, and they claim speeds which do not tally with facts.

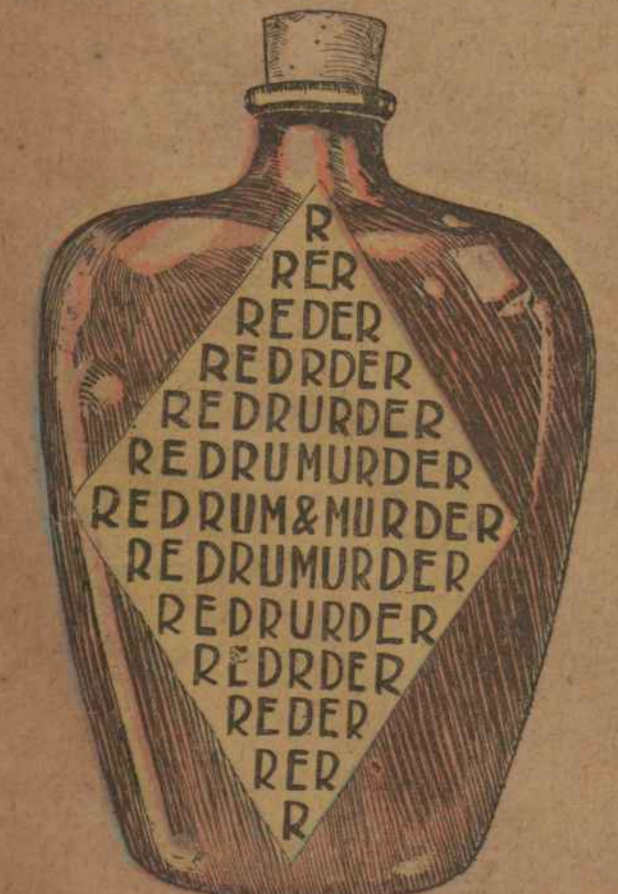
F. L. SAWYER, of No. 118 Ann street, Toronto, Canada, wins the \$5 prize, by showing that there might be two possible answers; the one in twelve minutes, which would require a phenomenally swift current, or the correct and reasonable answer of sixty-three minutes.

Can You Figure Fast?

THE children were playing school, and Tommy was describing a great cattle ranch in Texas, where they kept twelve thousand sheep and twelve hundred rams, and only twelve horses; so he proceeded to give her an exercise in simple addition as follows: "Now write down twelve thousand two hundred and twelve, and tell me how many more sheep and rams there are than horses, and be quick about it."



"Tell Me How Many More Sheep and Rams There Were than Horses."



How Many Different Ways Can You Read the Warning Words: Red Rum and Murder?